

VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a minor, municipal permit. The effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260 et seq. The discharge results from the operation of a private wastewater treatment facility treating sewage generated from sinks and bathrooms serving a college classroom complex. This permit action includes revised effluent limitations and special conditions in the permit.

1. Facility Name, Address, & Location: Rappahannock Community College-Glenns Campus STP
12745 College Drive
Glenns, VA 23149

2. SIC Code: 8222, 4952

3. Permit No. VA0028461 Permit Expiration Date: February 2, 2009

4. Owner Contact: Virginia Community College System
Name: Kim McManus
Title: Vice President for Administration and Finance
Telephone No.: 804/758-6706
Address: 12745 College Drive, Glenns, VA 23149

5. Application Complete Date: December 1, 2008
Permit Drafted By: Jeremy Kazio Date: September 12, 2008

DEQ Regional Office: Piedmont Regional Office

Reviewed By: Denise Mosca Date: September 24, 2008
Curt Linderman Date: October 30, 2008
Kyle Winter Date: November 7, 2008

6. Receiving Stream: Name: UT Dragon Run Swamp
Basin: Ches.Bay/Atlantic Ocean/Small Coast Basins
Subbasin: N/A
Section: 2d
Class: III
Special Standards: None
1-Day, 10-Year Low Flow: 0
7-Day, 10-Year Low Flow: 0
30-Day, 5-Year Low Flow: 0
Harmonic Mean Flow: 0
Tidal? No
On 303(d) list? No

7. Operator License Requirements: Class IV
The recommended attendance hours by a licensed operator and the minimum daily hours that the treatment works should be manned by operating staff are contained in the Sewage Collections and Treatment Regulations (SCAT) 9 VAC 25-790-300. A class IV licensed operator is required for this facility.

8. Reliability Class: Class I
Reliability is a measurement of the ability of a component or system to perform its designated function without failure or interruption of service. The reliability classification is based on the water quality and public health consequences of a component or system failure. The permittee is required to maintain Class I Reliability for this facility.

9. Permit Characterization:

- | | |
|---|--|
| <input type="checkbox"/> Issuance | <input checked="" type="checkbox"/> Existing Discharge |
| <input checked="" type="checkbox"/> Reissuance | <input type="checkbox"/> Proposed Discharge |
| <input type="checkbox"/> Revoke & Reissue | <input checked="" type="checkbox"/> Effluent Limited |
| <input type="checkbox"/> Owner Modification | <input checked="" type="checkbox"/> Water Quality Limited |
| <input type="checkbox"/> Board Modification | <input type="checkbox"/> WET Limit |
| <input type="checkbox"/> Change of Ownership/Name | <input type="checkbox"/> Interim Limits in Permit |
| Effective Date: | <input type="checkbox"/> Interim Limits in Other Document (attached) |
| <input checked="" type="checkbox"/> Municipal | <input type="checkbox"/> Compliance Schedule Required |
| SIC Code(s): 8222, 4952 | <input type="checkbox"/> Site Specific WQ Criteria |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Variance to WQ Standards |
| SIC Code(s): | <input type="checkbox"/> Water Effects Ratio |
| <input checked="" type="checkbox"/> POTW | <input checked="" type="checkbox"/> Discharge to 303(d) Listed Segment |
| <input type="checkbox"/> PVOTW | <input type="checkbox"/> Toxics Management Program Required |
| <input type="checkbox"/> Private | <input type="checkbox"/> Toxics Reduction Evaluation |
| <input type="checkbox"/> Federal | <input type="checkbox"/> Possible Interstate Effect |
| <input type="checkbox"/> State | <input type="checkbox"/> Storm Water Management Plan |

10. Wastewater Flow and Treatment: Table 1

Outfall Number	Wastewater Source	Treatment	Flow
001	Sinks and bathrooms serving a college classroom complex	Bar screen and comminutor, aeration, clarification, sludge wasting and holding chamber, aerated polishing pond, chlorination, dechlorination	18,000 gpd (0.018 MGD) design capacity

See **Attachment A** for a facility diagram.

11. Sludge Disposal: Waste sludge is held in a holding tank and disposed of by a licensed contract hauler as needed.

12. Discharge Location Description: This facility discharges to an UT of Dragon Run Swamp (see **Attachment B** for topo map)

Name of USGS topo map: Saluda Topo 123(D) (parking lot and campus)
Shackelfords Topo 123(C) (treatment works and Outfall 001)

13. Material Storage: Chemicals used for the wastewater plant are stored in proper containers and under roof cover in a shed located adjacent to the treatment works.

14. Ambient Water Quality Information:

Ambient water quality data is not needed because the receiving stream is dry at the theoretical low flows used in developing permit limitations. See Item 26 (303(d) Listed Segments (TMDL)) of this fact sheet for TMDL information.

15. Antidegradation Review and Comments:

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect those uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The antidegradation review begins with a Tier determination. The receiving stream flowing to Dragon Run Swamp is considered a Tier 1 water body. This determination is based on the intermittent nature of the stream where beneficial uses cannot be fully attained. (See **Attachment C** for Flow Frequency Memorandum by Jennifer V. Palmore, P.G. dated August 7, 2008)

16. Site Inspection: July 17, 2008 by Jeremy Kazio. See **Attachment D**.
17. Effluent Screening & Limitation Development:
See **Attachment E** which presents the evaluations for several pollutants of concern. Included in Attachment E are the MSTRANTI printout with WLAs, and STATS v2.0.4 analyses for ammonia and TRC for the 2009 permit and the 2004 permit reissuances.

18. Effluent Limitation Development: Table 2

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITS				MONITORING REQUIREMENTS	
		MO AVG	WE AVG	MIN	MAX	FREQ	SAMP TYPE
Flow	NA	NL – monitoring only		NA	NL	1/Day	Estimate
pH	1, 2	NA	NA	6.0 su	9.0 su	1/Day	Grab
BOD ₅	4	17 mg/L (1200 g/d)	25 mg/L (1700 g/d)	NA	NA	1/Month	Grab
TSS	4	17 mg/L (1200 g/d)	25 mg/L (1700 g/d)	NA	NA	1/Month	Grab
TRC	3	9.4 µg/L	12 µg/L	NA	NA	1/Day	Grab
Ammonia (as N)	3	3.2 mg/L	3.2 mg/L	NA	NA	1/Month	Grab
Dissolved Oxygen (DO)	1	NA	NA	5.0 mg/L	NA	1/Day	Grab
1. Water Quality Standards		2. Federal Effluent Guidelines for Secondary Treatment					
3. Water Quality Based Effluent Limitations		4. BPJ (Best Professional Judgment)					

- Limitations for Ammonia and TRC (Additional Information):**

A limitation evaluation begins by determining chronic and acute wasteload allocations (WLA's) using the MSTRANTI Excel Spreadsheet. MSTRANTI produces WLA's with calculations based on the Virginia Water Quality Standards (9 VAC 25-260 et. seq.) using data inputs for both effluent and receiving stream qualities and flows. Once determined, the chronic and acute WLA's are entered into the STATS 2.0.4 computer application along with the appropriate quantification level (QL) and at least one data point for each parameter. The output from the STATS 2.0.4 application will indicate the need for a permit limitation and calculate that limitation if needed. For Ammonia and TRC, GM 00-2011 requires that a concentration of 9 mg/L and 20 mg/L, respectively, be entered into STATS 2.0.4 as a data point in order to force the program to produce a limit if the WLA's are low enough that one is needed. Since this facility is considered an intermittent discharger, only the acute WLA's were used in the limitation evaluation process.

The receiving stream for the RCC-Glenns Campus STP discharge is considered intermittent, and therefore is assigned a zero low flow designation. In these cases, the receiving stream may be most conservatively characterized by the facility's effluent, and therefore, data inputted to MSTRANTI for this facility's effluent were also applied as the stream's ambient data.

The calculated limitation for Ammonia for the 2009 permit was less stringent than the limit in the 2004 reissuance. Due to antibacksliding policies, the Ammonia limit from the 2004 permit will be carried forth to the 2009 permit.

The calculated limitation for TRC for the 2009 permit is the same as the 2004 limit.

- **Other Limitation Rationale for BOD₅, TSS, and DO (Additional Information)**

BOD₅ and TSS: The BOD₅ and TSS limitations in the 2004 reissuance represented limitations assigned to this facility in the original permit issued on August 1, 1975. These limitations were based on the State Water Control Board staff's best professional judgment that these limits would effectively protect aquatic life downstream of the discharge. Although the receiving stream has not been modeled, there is not enough sufficient data to support assigning more stringent limitations to the permittee at this time. It is staff's best professional judgment that the existing limitations in the 2004 permit reissuance for BOD₅ and TSS will continue to protect water quality in the 2009 permit reissuance because: 1) the permittee does not plan on making alterations or upgrades to the treatment works during the permit term, 2) no supporting information exists to demonstrate that the facility has degraded the receiving stream, 3) no other limitations for the 2009 reissuance are being made more stringent, 4) the facility is an intermittent discharger, and 5) the facility has consistently complied with the current permit limits.

Dissolved Oxygen (DO): The Dissolved Oxygen (DO) criteria in 9 VAC 25- 260-50 include an instantaneous minimum of 4.0 mg/L and a daily average of 5.0 mg/L for Class III water bodies within the Coastal and Piedmont zones. The current DO limitation in this permit, 5.0 mg/L minimum, adequately addresses these criteria.

19. Basis for Sludge Use & Disposal Requirements: Not applicable, as this facility does not land apply sludge.
20. Antibacksliding: All limitations in the 2009 permit are the same or more stringent than the limitations in the 2004 permit.
21. Total Residual Chlorine Limitations and Monitoring Requirements – Part I.B.1
These limitations and monitoring are required by the Water Quality Standards, 9 VAC 25-260-170 – Bacteria; other waters. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.
22. Special Conditions – Part I.C:
 - a. Special Condition C.1 – 95% Capacity Reopener
Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 2 for all POTW and PVOTW permits.
 - b. Special Condition C.2 – O&M Manual Requirement
Rationale: Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790; VPDES Permit Regulation, 9 VAC 25-31-190 E.
 - c. Special Condition C.3 – Licensed Operator Requirement
Rationale: The VPDES Permit Regulation, 9 VAC 25-31-200 C and the Code of Virginia § 54.1-2300 et seq., Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.), require licensure of operators.
 - d. Special Condition C.4. – Reliability Class
Rationale: Required by Sewage Collection and Treatment Regulations, 9 VAC 25-790 for all municipal facilities.

- e. Special Condition C.5 – Sludge Use and Disposal
Rationale: VPDES Permit Regulation, 9 VAC 25-31-100 P; 220 B 2; and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on sludge use and disposal practices and to meet specified standards for sludge use and disposal.
- f. Special Condition C.6. – Sludge Reopener
Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-220 C for all permits issued to treatment works treating domestic sewage.
- g. Special Condition C.7 – Compliance Reporting
Rationale: Authorized by VPDES Permit Regulation, 9 VAC 25-31-190 J 4 and 220 I. This condition is necessary when pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limitation or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.
- h. Special Condition C.8 – Materials Handling/Storage
Rationale: 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and 62.1-44.17 authorizes the Board to regulate the discharge of industrial waste or other waste.
- i. Special Condition C.9 – Section 303(d) List (TMDL) Reopener
Rationale: Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The re-opener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act. The TMDL reopener special condition is being included in all VPDES permits.
- j. Special Condition C. 10—Indirect Dischargers
Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B.1. and B.2. for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.
- k. Special Condition C. 11 – CTO, CTC Requirement
Rationale: Required by Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790.
- l. Special Condition C. 12 – Intermittent Discharge Requirements
Rationale: This site specific special condition is required since the permit limitations for ammonia and total residual chlorine are based solely on acute toxicity (as opposed to both acute and chronic toxicity). Status as an intermittent discharger must be maintained in order that chronic toxicity not be considered when performing these calculations.
- m. Special Condition C. 13 - Treatment Works Closure Plan
Rationale: §62.1-44.19 of the State Water Control Law. This condition establishes the requirement to submit a closure plan for the wastewater treatment facility if the treatment facility is being replaced or is expected to close.

23. Part II, Conditions Applicable to All VPDES Permits
The VPDES Permit Regulation at 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

24. Changes to Current Permit

Table 3: Permit Processing Change Sheet (Limitations & Monitoring)

Parameter Changed	Effluent Limits Changed		Monitoring Requirement Changed		Reason for Change	Date
	From	To	From	To		
TSS Monthly Average Loading Limits	1.16 kg/d	1200 g/d	1/ Month	No Change	Loading limitations were revised in accordance with GM06-2016.	8/08
TSS Weekly Average Loading Limits	1.7 kg/d	1700 g/d				
BOD ₅ Monthly Average Loading Limits	1.16 kg/d	1200 g/d	1/ Month	No Change		
BOD ₅ Weekly Average Loading Limits	1.7 kg/d	1700 g/d				

Table 3 (cont.): Permit Processing Change Sheet (Special Conditions)

Special Conditions				
From	To	Special Condition Changed	Reason for Change	Date
Part I.A.1.a.(1)	Part I.A.1(a)	Design Flow	Wording changed to reflect standard agency language and 95% Capacity Reopener special condition	8/08
--	Part I.A.1(b)	Significant digits	New, reflects current agency guidance	
Part I.A.2	Part I.A.2	Discharge of floating solids/foam	No changes	
--	Part I.A.3	Sample location	New, reflects current agency policy	
Part I.A.1.a.(2)	Part I.A.4	TRC Requirements reference	Wording changed to reflect standard agency language.	
Part I.A.3	Part I.A.5	85% Removal for BOD ₅ & TSS	No changes	
Part I.B	Part I.B	Additional Limitations and Monitoring Requirements	Revised to reflect current agency guidance. Please see Item 27.b. of this fact sheet for information concerning the E.Coli demonstration study.	
Part I.D.1	Part I.C.1	95% Capacity Notification	No changes	
Part I.D.2	Part I.C.2	O & M Manual	Revised to reflect current agency guidance	
Part I.D.3	Part I.C.3	Licensed Operator	No changes	
Part I.D.4	Part I.C.4	Reliability Class	No changes	
Part I.D.5	Part I.C.5	Sludge Use and Disposal	Revised wording to reflect current agency guidance	
Part I.D.6	Part I.C.6	Sludge Reopener	No changes	
Part I.D.7	Part I.C.7	Compliance Reporting	Revised to reflect current agency guidance and revised effluent limitations.	
Part I.D.8	Part I.C.8	Materials Handling/Storage	No changes	
--	Part I.C.9	TMDL Reopener	New, reflects current agency guidance	
--	Part I.C.10	Indirect Dischargers	New, reflects current agency guidance	
--	Part I.C.11	CTC, CTO Requirement	New, reflects current agency guidance	
Part I.D.12	Part I.C.12	Intermittent Discharge Requirements	No changes	

Special Conditions				
From	To	Special Condition Changed	Reason for Change	Date
Part I.D.9	Part I.C.13	Treatment Works Closure Plan	No Change	8/08
Part I.C.	(deleted)	Schedule of Compliance for Final Ammonia Limitation	No longer applicable --See item 28.b. of this fact sheet for information concerning the compliance schedule given for the 2004 permit final Ammonia limitation	
Part I.D.10	(deleted)	Power Outage	Deleted because the loss of electrical power has no affect on the chlorine disinfection equipment. The chlorination/dechlorination equipment consists of a self-feeding gravity operated device that has no electrical connections.	
Cover Page				
From		To	Reason for Change	8/08
City: N/A		City: Glenns	Formatting preference	
Facility Location: On VSH 33 at 12745 College Drive, Glenns, VA		Facility Location: 12745 College Drive, Glenns, VA	Formatting preference	
Stream: UT Dragon Run		Stream: UT Dragon Run Swamp	Changed to reflect a more accurate receiving stream designation as reflected in the Flow Frequency Memorandum dated August 7, 2008 by Jennifer Palmore, PG	
Cover page language		Revised	Revised to reflect current agency language and guidance.	

25. Variances/Alternate Limits or Conditions: None.

26. Public Notice Information required by 9 VAC 25-31-280 B:

Comment period: Start Date: December 11, 2008 End Date: January 12, 2009
Published Dates: December 11, 2008 and December 18, 2008

All pertinent information is on file and may be inspected or copied by contacting Jeremy Kazio at:
Virginia Department of Environmental Quality (DEQ)
Piedmont Regional Office
4949-A Cox Road
Glen Allen, Virginia 23060-6296

Telephone Number 804/527-5044
Facsimile Number 804/527-5106
Email jskazio@deq.virginia.gov

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions.

Following the comment period, the Board will make a determination regarding the proposed permit action.

The public may review the draft permit and application at the DEQ Piedmont Regional Office by appointment.

27. 303(d) Listed Segments (TMDL)

During the 2006 305(b)/303(d) cycle, the tributary was considered a Category 3A water because there was insufficient information to assess the Aquatic Life Use. The other uses were not assessed. In the draft 2008 report, the tributary was considered fully supporting of the Aquatic Life Use. The other uses remained not assessed, therefore the tributary was classified a Category 2A water.

The facility is not addressed in any current TMDL, including the Upper Plankatank River Shellfish TMDL, which states that there are no permitted point sources in the watershed.

28. Additional Comments:

a. Previous Board Action: None.

b. Staff Comments:

- Financial assurance does not apply to this facility because it is a POTW.
- This facility was given instructions to complete a bacterial demonstration study for E.Coli within the first year of the February 3, 2004 permit reissuance. If the facility was able to meet the conditions set by the bacterial demonstration study's instructions, then an E.Coli limitation would not be required. According to DEQ PRO's records, the permittee was able to exhibit successful compliance with the terms of the bacterial demonstration study on April 14, 2005. Because this is a minor facility that does not discharge to a 303(d) listed bacteria impaired water body, the terms of the bacterial demonstration study will be upheld and an E.Coli limitation will not be included in the 2009 permit reissuance. Compliance with the chlorine limitations will be presumed to demonstrate adequate disinfection.
- For the final Ammonia limitation in the 2004 permit reissuance, this facility was granted a compliance schedule to meet this limit based on the permittee's ability to modify the treatment plant over the course of the permit term. On August 26, 2004, the permittee's consultant contacted DEQ to inform staff that the permittee was able to meet the Ammonia limitation without modifying the treatment works. Therefore, the terms of the compliance schedule were considered to be met from that date forward.
- The Rappahannock Community College's treatment facility is an existing discharger with a design capacity of 18,000 gallons per day (and is not planning on expanding), and was issued a CTO before July 1, 2005. Therefore, this facility is not considered a significant discharger under the Code of Virginia § 62.1-44.19:19:14.C.5 for existing dischargers, and consequently is not subject to coverage under the *General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia (9 VAC 25-820)*.
- A limitation monitoring reduction was not considered for this facility because it is an intermittent discharger.
- This facility was included on the 2009 DCR-DNH & DGIF VPDES Permit Review List for Facilities within 2 miles of a Natural Heritage Resource. Please see **Attachment F** for review form, correspondence, and response from DGIF. Although DGIF recommended that the method of disinfection for this facility be changed to UV or ozone, their overall comments stated that no impacts were expected to result from the 2009 reissuance of this permit.

- In Application 2A, the permittee is normally required to collect 24-hour composite samples for the required parameters. For the 2009 reissuance, the permittee used test results from grab samples taken within the last 4 ½ years for DMR reporting for BOD₅, TSS, temperature, flow rates, and pH. For the required fecal coliform sampling, the permittee took 3 grab samples, which is in compliance with agency guidance because the aerated polishing pond provides a retention time of greater than 24 hours.

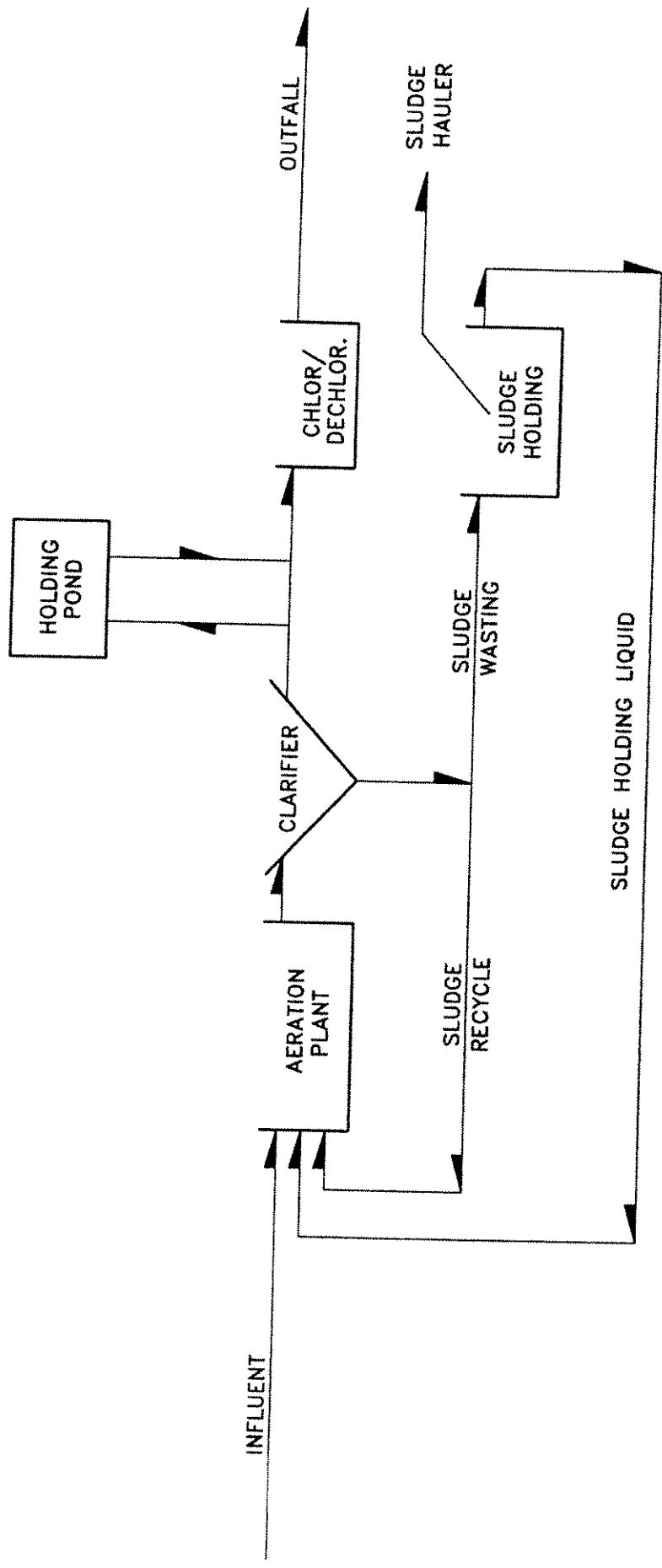
c. Public Comment: None

29. Summary of attachments to this Fact Sheet:

Attachment A	Facility Diagram
Attachment B	Location Map
Attachment C	Flow Frequency Analysis
Attachment D	Site Inspection Report
Attachment E	Effluent Data and Limitation Evaluations
Attachment F	Natural Heritage Resource Correspondence with DGIF

Attachment A

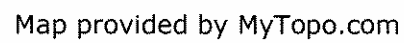
Facility Diagram



WASTEWATER TREATMENT PLANT FLOW DIAGRAM AND SLUDGE PROCESS

Attachment B

Location Map



Attachment C

Flow Frequency Analysis

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office
4949-A Cox Road Glen Allen, Virginia 23060

SUBJECT: Flow Frequency Determination / 303(d) Status
Rappahannock Community College WWTP – VA0028461

TO: Jeremy Kazio

FROM: Jennifer Palmore, P.G. *J.P.*

DATE: August 7, 2008

COPIES: File

The Rappahannock Community College, Glenns Campus's sewage treatment plant discharges to an unnamed tributary (UT) of Dragon Swamp near Glenns, VA. Flow frequencies have been requested at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

The tributary is shown to be an intermittent stream on the USGS Shacklefords 7.5' Quadrangle topographic map. The flow frequencies for intermittent streams are shown below.

Unnamed tributary at discharge point:

1Q30 = 0.0 cfs	High Flow 1Q10 = 0.0 cfs
1Q10 = 0.0 cfs	High Flow 7Q10 = 0.0 cfs
7Q10 = 0.0 cfs	High Flow 30Q10 = 0.0 cfs
30Q10 = 0.0 cfs	HM = 0.0 cfs
30Q5 = 0.0 cfs	

During the 2006 305(b)/303(d) cycle, the tributary was considered a Category 3A water because there was insufficient information to assess the Aquatic Life Use. The other uses were not assessed. In the draft 2008 report, the tributary was considered fully supporting of the Aquatic Life Use. The other uses remained not assessed, therefore the tributary was classified a Category 2A water.

The facility is not addressed in any current TMDL, including the Upper Piankatank River Shellfish TMDL, which states that there are no permitted point sources in the watershed.

If you have any questions concerning this analysis, please let me know.

Attachment D

Site Inspection Report

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office

4949-A Cox Rd Glen Allen, VA 23060

(804) 527-5044

SUBJECT: Site Visit

TO: File

FROM: Jeremy Kazio, PRO

DATE: July 17, 2008

COPIES: File

Facility Name: Rappahannock Community College-Glens Campus
Permit Number: VA0028461

On July 17, 2008, I made a site visit to the above facility. Rappahannock Community College-Glenns Campus is located off of Route 33 approximately 10 miles east of the town of West Point, VA. In the afternoon prior to my visit, I called the Grounds Manager (Mark Beaver) and asked for permission to view the facility in the morning. He stated that it wouldn't be a problem and that he would have one of his employees unlock the fencing surrounding the treatment plant. When I arrived, I parked the vehicle in a parking lot near the campus, and walked approximately ½ mile down a wooded access road to the location of the treatment plant.

My initial scan of the plant revealed a very clean and well kept facility. The chain-link fencing surrounding the facility was in good shape, and the vegetation and grass were kept at an acceptable level. The treatment system is an automated aeration package plant consisting of primary treatment (bar screen and comminutor), a sludge chamber, aeration, clarification, and a pump chamber which pumps treated effluent to the polishing pond. The aeration pumps were running at the time of my visit, and the color of the mixed liquor indicated a healthy, well fed system. There appeared to be good settling in the clarifier chamber. The weir trough was free from debris, and the treated water exiting through the clarifier was clear, free of floc, and odorless. All chambers of the treatment system are below-grade and were covered by zinc-plated steel grates.

The polishing pond is approximately 100 feet in diameter with a large aeration pump at its center with the aerator's electric motor located above the surface of the pond. The pond's surface was covered with lemna except the immediate area (10' +/- radius) surrounding the aerator. Frogs and turtles were observed at the water's edge and within the pond. The berm was free of hydrophilic vegetation and animal holes, and was mowed to down to the water surface level. An underground pipe leads from the polishing pond to the chlorine contact tank.

Disinfection occurs by means of a self-feeding tablet chlorinator and a dechlorinator. The chlorine contact tank was uncovered, and the accumulation of leaf litter and miscellaneous debris on the floor of the tank seems to indicate that it is not normally covered. No water flow was observed entering or leaving the tank at the time of the site visit, however, there was water approximately 1 foot deep within the tank. From 3 feet away, the faint smell of chlorine could be detected. The water in the general area of the contact tank's discharge contained a large population of tadpoles. The dechlorinator mechanism was located outside of the contact tank and in-line with the tank's discharge opening.

Attachment E

Effluent Data and Limitations Evaluations

MSTRANTI DATA SOURCE REPORT

Rappahannock Community College-Glenns Campus: VA0028461
2009 Permit Reissuance

Stream Information	
Mean Hardness	All Stream Information is considered the same as the Effluent Information due to the zero low flow / intermittent nature of the receiving stream.
90% Temperature (annual)	
90% Temperature (wet season)	
90% Maximum pH	
10% Maximum pH	
Tier Designation	Flow Frequency Analysis
Stream Flows	
All Data	Flow Frequency Analysis
Mixing Information	
All Data	Dry ditch discharge, a 100% mix is assumed.
Effluent Information	
Mean Hardness	No data are available. The hardness concentration is, in this instance, a conservative assumption.
90% Temperature (annual)	A conservative approach was taken by using the maximum daily temperature values reported on the permit application.
90% Maximum pH	Taken from data reported on DMR's submitted between April 2004 and June 2008.
10% Maximum pH	
Discharge Flow	STP Design Flow provided in the permit application.

FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Rappahannock Community College-Glenns Campus STP Permit No.: VA0028461

Receiving Stream: UT Dragon Run

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information			Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO3) =	25 mg/L	1Q10 (Annual) =	0 MGD	Annual - 1Q10 Mix =	100 %	Mean Hardness (as CaCO3) =	25 mg/L	
90% Temperature (Annual) =	18 deg C	7Q10 (Annual) =	0 MGD	- 7Q10 Mix =	100 %	90% Temp (Annual) =	18 deg C	
90% Temperature (Wet season) =	15.5 deg C	30Q10 (Annual) =	0 MGD	- 30Q10 Mix =	100 %	90% Temp (Wet season) =	15.5 deg C	
90% Maximum pH =	8 SU	1Q10 (Wet season) =	0 MGD	Wet Season - 1Q10 Mix =	100 %	90% Maximum pH =	8 SU	
10% Maximum pH =	8 SU	30Q10 (Wet season) =	0 MGD	- 30Q10 Mix =	100 %	10% Maximum pH =	8 SU	
Tier Designation (1 or 2) =	1	30Q5 =	0 MGD			Discharge Flow =	0.018 MGD	
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	0 MGD					
Trout Present Y/N? =	n	Annual Average =	N/A MGD					
Early Life Stages Present Y/N? =	y							

Parameter (ug/l unless noted)	Background Conc	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenaphthene	0	--	--	na	2.7E+03	--	--	na	2.7E+03	--	--	--	--	--	--	--	--	--	--	na	2.7E+03
Acrolein	0	--	--	na	7.8E+02	--	--	na	7.8E+02	--	--	--	--	--	--	--	--	--	--	na	7.8E+02
Acrylonitrile ^c	0	--	--	na	6.6E+00	--	--	na	6.6E+00	--	--	--	--	--	--	--	--	--	--	na	6.6E+00
Altim ^c	0	3.0E+00	--	na	1.4E-03	3.0E+00	--	na	1.4E-03	--	--	--	--	3.0E+00	--	--	--	3.0E+00	--	na	1.4E-03
Ammonia-N (mg/l) (Yearly)	0	8.41E+00	1.94E+00	na	--	8.4E+00	1.9E+00	na	--	--	--	--	--	8.4E+00	1.9E+00	--	--	8.4E+00	1.9E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	8.41E+00	2.28E+00	na	--	8.4E+00	2.3E+00	na	--	--	--	--	--	8.4E+00	2.3E+00	--	--	8.4E+00	2.3E+00	na	--
Anthracene	0	--	--	na	1.1E+05	--	--	na	1.1E+05	--	--	--	--	--	--	--	--	--	--	na	1.1E+05
Antimony	0	--	--	na	4.3E+03	--	--	na	4.3E+03	--	--	--	--	--	--	--	--	--	--	na	4.3E+03
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	3.4E+02	1.5E+02	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene ^c	0	--	--	na	7.1E+02	--	--	na	7.1E+02	--	--	--	--	--	--	--	--	--	--	na	7.1E+02
Benzidine ^c	0	--	--	na	5.4E-03	--	--	na	5.4E-03	--	--	--	--	--	--	--	--	--	--	na	5.4E-03
Benzo (a) anthracene ^c	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (b) fluoranthene ^c	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (k) fluoranthene ^c	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (a) pyrene ^c	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Bis(2-Chloroethyl) Ether	0	--	--	na	1.4E+01	--	--	na	1.4E+01	--	--	--	--	--	--	--	--	--	--	na	1.4E+01
Bis(2-Chloroisopropyl) Ether	0	--	--	na	1.7E+05	--	--	na	1.7E+05	--	--	--	--	--	--	--	--	--	--	na	1.7E+05
Bromoform ^c	0	--	--	na	3.6E+03	--	--	na	3.6E+03	--	--	--	--	--	--	--	--	--	--	na	3.6E+03
Butylbenzylphthalate	0	--	--	na	5.2E+03	--	--	na	5.2E+03	--	--	--	--	--	--	--	--	--	--	na	5.2E+03
Cadmium	0	8.2E-01	3.8E-01	na	--	8.2E-01	3.8E-01	na	--	--	--	--	--	8.2E-01	3.8E-01	--	--	8.2E-01	3.8E-01	na	--
Carbon Tetrachloride ^c	0	--	--	na	4.4E+01	--	--	na	4.4E+01	--	--	--	--	--	--	--	--	--	--	na	4.4E+01
Chlordane ^c	0	2.4E+00	4.3E-03	na	2.2E-02	2.4E+00	4.3E-03	na	2.2E-02	--	--	--	--	2.4E+00	4.3E-03	--	--	2.4E+00	4.3E-03	na	2.2E-02
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	8.6E+05	2.3E+05	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	1.9E+01	1.1E+01	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.1E+04	--	--	--	--	--	--	--	--	--	--	na	2.1E+04

8/19/2008 10:22:33 AM

Facility = Rappahannock Community College

Chemical = Ammonia

Chronic averaging period = 30

WLAA = 8.4

WLAC =

Q.L. = 0.2

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 1

Expected Value = 9

Variance = 29.16

C.V. = 0.6

97th percentile daily values = 21.9007

97th percentile 4 day average = 14.9741

97th percentile 30 day average = 10.8544

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity

Maximum Daily Limit = 8.4

Average Weekly limit = 8.4

Average Monthly Limit = 8.4

The data are:

8/19/2008 9:53:20 AM

Facility = Rappahannock Community College

Chemical = TRC

Chronic averaging period = 4

WLAa = 19

WLAc =

Q.L. = 100

samples/mo. = 30

samples/wk. = 7

Summary of Statistics:

observations = 1

Expected Value = 20000

Variance = 1440000

C.V. = 0.6

97th percentile daily values = 48668.3

97th percentile 4 day average = 33275.8

97th percentile 30 day average = 24121.0

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity

Maximum Daily Limit = 19

Average Weekly limit = 11.6034369282885

Average Monthly Limit = 9.4168021134859

The data are:

20000

Rappahannock Community College - Glens Campus

VA0028461

DMR Data- pH: April 2004 - June 2008

DMR Due Date	DMR Rec'd Date	Concentration Minimum	Concentration Maximum
4/10/2004	4/12/2004	8	8
5/10/2004	5/10/2004	8	8
8/10/2004	8/10/2004	6.5	8
9/10/2004	9/10/2004	6.5	8
10/10/2004	10/12/2004	6.5	8
12/10/2004	12/10/2004	7	8
3/10/2005	3/10/2005	7	8
5/10/2005	5/10/2005	8	8
8/10/2005	8/10/2005	7	8
11/10/2005	11/10/2005	7	8
1/10/2006	1/10/2006	8	8
3/10/2006	3/10/2006	7.5	8
5/10/2006	5/10/2006	8	8.5
6/10/2006	6/12/2006	7.5	8
8/10/2006	8/9/2006	7.5	8
10/10/2006	10/10/2006	7.5	8
11/10/2006	11/13/2006	7.5	8
12/10/2006	12/10/2006	7.5	8
3/10/2007	3/12/2007	7.5	8
5/10/2007	5/10/2007	8	8
9/10/2007	9/10/2007	8	8
12/10/2007	12/10/2007	8	8
3/10/2008	3/10/2008	8	8
5/10/2008	5/12/2008	8	8
6/10/2008	6/10/2008	8	8
90th Percentile		8	8
10th Percentile		6.7	8

Note: DMR's in which "No Discharge" was reported are not listed.

Rappahannock Community College - Glens Campus
 VA0028461
 Application 2A Data- 2009 Permit reissuance

Parameter	Maximum Daily Value		Average Daily Value		
	Value	Units	Value	Units	Number of Samples
pH (minimum)	8.0	s.u.			
pH (maximum)	8	s.u.			
Flow Rate	0.01	MGD	0.01	MGD	51
Temperature (Winter)	15.5	°C	11.96	°C	3
Temperature (Summer)	18	°C	17.6	°C	3

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method	ML/MDL
	Conc.	Units	Conc.	Units	Number of Samples		
Biochemical Oxygen Demand (report one)	10	mg/L	2	mg/L	5	405.1	2
Fecal Coliform	<2	mpn/100mL	<2	mpn/100mL	3	9221c	2
Total Suspended Solids (TSS)	8.8	mg/L	3.7	mg/L	5	160.2	1

Rappahannock Community College - Glens Campus

VA0028461

DMR Data- TSS: April 2004 - June 2008

DMR Due Date	DMR Rec'd Date	Monthly Loading (kg/D)	Weekly Loading (kg/D)	Monthly Avg. Concentration (mg/L)	Weekly Avg. Concentration (mg/L)
4/10/2004	4/12/2004	0.3	0.3	7.9	7.9
5/10/2004	5/10/2004	0.1	0.2	12.65	22.2
8/10/2004	8/10/2004	0.2	0.2	3.1	3.1
9/10/2004	9/10/2004	0.1	0.1	3.7	3.7
10/10/2004	10/12/2004	0.6	0.6	17	17
12/10/2004	12/10/2004	0.4	0.4	7.7	7.7
3/10/2005	3/10/2005	X	X	4.9	4.9
5/10/2005	5/10/2005	0.2	0.2	6.1	6.1
8/10/2005	8/10/2005	0.1	0.1	3.8	3.8
11/10/2005	11/10/2005	0.5	0.5	10	10
1/10/2006	1/10/2006	0.74	0.74	14	14
3/10/2006	3/10/2006	0.28	0.28	5.3	5.3
5/10/2006	5/10/2006	0.55	0.55	8.5	8.5
6/10/2006	6/12/2006	0.06	0.06	3.2	3.2
8/10/2006	8/9/2006	0.07	0.07	1.3	1.3
10/10/2006	10/10/2006	0.63	1.3	10.35	19
11/10/2006	11/13/2006	0.44	0.44	6.5	6.5
12/10/2006	12/10/2006	0.22	0.22	3.2	3.2
3/10/2007	3/12/2007	0.15	0.15	4	4
5/10/2007	5/10/2007	0.33	0.33	8.8	8.8
9/10/2007	9/10/2007	X	X	14.8	14.8
12/10/2007	12/10/2007	0.06	0.06	1.6	1.6
3/10/2008	3/10/2008	0.117	0.117	2.1	2.1
5/10/2008	5/12/2008	0.17	0.17	4.5	4.5
6/10/2008	6/10/2008	0.06	0.06	1.5	1.5
Maximum		0.74	1.3	17	22.2
Averages		0.28	0.31	6.66	7.39

Note: DMR's in which "No Discharge" was reported are not listed.

Rappahannock Community College - Glens Campus

VA0028461

DMR Data- BOD₅: April 2004 - June 2008

DMR Due Date	DMR Rec'd Date	Monthly Loading (kg/D)	Weekly Loading (kg/D)	Monthly Avg. Concentration (mg/L)	Weekly Avg. Concentration (mg/L)
4/10/2004	4/12/2004	<.08	<0.8	<2	<2
5/10/2004	5/10/2004	0.06	0.06	3	3
8/10/2004	8/10/2004	<QL	<QL	<QL	<QL
9/10/2004	9/10/2004	<QL	<QL	<QL	<QL
10/10/2004	10/12/2004	0.3	0.3	7	7
12/10/2004	12/10/2004	<QL	<QL	<QL	<QL
3/10/2005	3/10/2005	<QL	<QL	<QL	<QL
5/10/2005	5/10/2005	<QL	<QL	<QL	<QL
8/10/2005	8/10/2005	<QL	<QL	<QL	<QL
11/10/2005	11/10/2005	<QL	<QL	<QL	<QL
1/10/2006	1/10/2006	0.37	0.37	7	7
3/10/2006	3/10/2006	<QL	<QL	<QL	<QL
5/10/2006	5/10/2006	<QL	<QL	<QL	<QL
6/10/2006	6/12/2006	<QL	<QL	<QL	<QL
8/10/2006	8/9/2006	<QL	<QL	<QL	<QL
10/10/2006	10/10/2006	0.95	0.95	14	14
11/10/2006	11/13/2006	<QL	<QL	<QL	<QL
12/10/2006	12/10/2006	<QL	<QL	<QL	<QL
3/10/2007	3/12/2007	<QL	<QL	<QL	<QL
5/10/2007	5/10/2007	0.38	0.38	10	10
9/10/2007	9/10/2007	<QL	<QL	<QL	<QL
12/10/2007	12/10/2007	<QL	<QL	<QL	<QL
3/10/2008	3/10/2008	<QL	<QL	<QL	<QL
5/10/2008	5/12/2008	<QL	<QL	<QL	<QL
6/10/2008	6/10/2008	<QL	<QL	<QL	<QL
Maximum		0.95	0.95	14	14
Averages		0.41	0.41	8.20	8.20

Note: DMR's in which "No Discharge" was reported are not listed.

Rappahannock Community College - Glenns Campus
 VA0028461
 DMR Data- Ammonia: April 2004 - June 2008

DMR Due Date	DMR Rec'd Date	Monthly Avg. Concentration (mg/L)	Weekly Avg. Concentration (mg/L)
4/10/2004	4/12/2004	0.2	0.2
5/10/2004	5/10/2004	<QL	<QL
8/10/2004	8/10/2004	<QL	<QL
9/10/2004	9/10/2004	<QL	<QL
10/10/2004	10/12/2004	<QL	<QL
12/10/2004	12/10/2004	<QL	<QL
3/10/2005	3/10/2005	2.7	2.7
5/10/2005	5/10/2005	<QL	<QL
8/10/2005	8/10/2005	<QL	<QL
11/10/2005	11/10/2005	<QL	<QL
1/10/2006	1/10/2006	0.4	0.4
3/10/2006	3/10/2006	<QL	<QL
5/10/2006	5/10/2006	<QL	<QL
6/10/2006	6/12/2006	<QL	<QL
8/10/2006	8/9/2006	<QL	<QL
10/10/2006	10/10/2006	3	3
11/10/2006	11/13/2006	<QL	<QL
12/10/2006	12/10/2006	<QL	<QL
3/10/2007	3/12/2007	<QL	<QL
5/10/2007	5/10/2007	0.2	0.2
9/10/2007	9/10/2007	0.2	0.2
12/10/2007	12/10/2007	<QL	<QL
3/10/2008	3/10/2008	0.2	0.2
5/10/2008	5/12/2008	<QL	<QL
6/10/2008	6/10/2008	<QL	<QL
Maximum		3	3
Averages		0.99	0.99

Note: DMR's in which "No Discharge" was reported are not listed.

Water Quality Standards and Wasteload Allocations

Permittee:	Rappahannock Comm	Design	0.018	90th % stream pH	8.50	MIX% for chronic WLA	100
Permit No.	VA0028461	7Q10	0 (chronic)	10th % stream pH	8	MIX% for acute WLA	100
Receiving Stream:	UT Dragon Run	1Q10	0 (acute)	90th % stream temp	21.5		
WQ Tier	1 (1 or 2)	3Q05	0 (human health - noncarcinogen)	mean effluent hardness	25		
Public Water Supply?	2 (1 = yes, 2 = no)	HM	0 (human health - carcinogen)	mean stream hardness	25	(note: 25 mg/l minimum)	

Parameter (ug/l unless noted)	Background Conc.	Water Quality Standard				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenaphthene	0	3.0E+00	3.0E-01	1.2E+03	2.7E+03	3.0E+00	3.0E-01	na	2.7E+03	3.0E+00	3.0E-01	1.2E+03	2.7E+03	3.0E+00	3.0E-01	na	2.7E+03	3.0E+00	3.0E-01	na	2.7E+03
Aldrin ^c	0	1.9E+00	4.4E-01	1.3E-03	1.4E-03	1.9E+00	4.4E-01	na	1.4E-03	1.9E+00	4.4E-01	1.3E-03	1.4E-03	1.9E+00	4.4E-01	na	1.4E-03	1.9E+00	4.4E-01	na	1.4E-03
Ammonia-N (mg/l)	0							na	1.1E+05			9.6E+03	1.1E+05			na	1.1E+05			na	1.1E+05
Anthracene	0			9.6E+03	1.1E+05			na	4.3E+03			1.4E+01	4.3E+03			na	4.3E+03			na	4.3E+03
Antimony	0			1.4E+01	4.3E+03			na	5.0E+01			5.0E+01	5.0E+01			na	5.0E+01			na	5.0E+01
Arsenic	0	3.6E+02	1.9E+02	2.0E+03	7.1E+02	3.6E+02	1.9E+02	na	2.0E+03			2.0E+03	7.1E+02			na	2.0E+03			na	7.1E+02
Arsenic III	0			1.2E+01	7.1E+02			na	1.2E+01			1.2E+01	7.1E+02			na	1.2E+01			na	7.1E+02
Barium	0			4.4E-02	4.9E-01			na	4.4E-02			4.4E-02	4.9E-01			na	4.4E-02			na	4.9E-01
Benzene ^c	0			4.4E-02	4.9E-01			na	4.4E-02			4.4E-02	4.9E-01			na	4.4E-02			na	4.9E-01
Benzo(a)anthracene ^c	0			4.4E-02	4.9E-01			na	4.4E-02			4.4E-02	4.9E-01			na	4.4E-02			na	4.9E-01
Benzo(b)fluoranthene ^c	0			4.4E-02	4.9E-01			na	4.4E-02			4.4E-02	4.9E-01			na	4.4E-02			na	4.9E-01
Benzo(k)fluoranthene ^c	0			4.4E-02	4.9E-01			na	4.4E-02			4.4E-02	4.9E-01			na	4.4E-02			na	4.9E-01
Benzofuran ^c	0			4.4E-02	4.9E-01			na	4.4E-02			4.4E-02	4.9E-01			na	4.4E-02			na	4.9E-01
Bromofuran ^c	0			4.4E-02	4.9E-01			na	4.4E-02			4.4E-02	4.9E-01			na	4.4E-02			na	4.9E-01
Butybenzylphthalate	0			3.0E+03	5.2E+03			na	5.2E+03			3.0E+03	5.2E+03			na	5.2E+03			na	5.2E+03
Cadmium	0	8.2E-01	3.8E-01	2.5E+00	4.5E+01	8.2E-01	3.8E-01	na	4.5E+01			2.5E+00	4.5E+01			na	4.5E+01			na	4.5E+01
Carbon Tetrachloride ^c	0	2.4E+00	4.3E-03	5.8E-03	5.9E-03	2.4E+00	4.3E-03	na	5.9E-03			5.8E-03	5.9E-03			na	5.9E-03			na	5.9E-03
Chlordane ^c	0	8.6E+05	2.3E+05	2.5E+05		8.6E+05	2.3E+05	na				2.5E+05				na				na	
Chlorite	0	1.9E+01	1.1E+01	6.9E+02	5.7E+04	1.9E+01	1.1E+01	na	5.7E+04			6.9E+02	5.7E+04			na	5.7E+04			na	5.7E+04
Chlorodibromomethane	0			5.7E+01	4.7E+03			na	4.7E+03			5.7E+01	4.7E+03			na	4.7E+03			na	4.7E+03
Chloroform ^c	0			1.2E+02	4.0E+02			na	4.0E+02			1.2E+02	4.0E+02			na	4.0E+02			na	4.0E+02
2-Chlorophenol	0	8.3E-02	4.1E-02	8.3E-02	4.1E-02	8.3E-02	4.1E-02	na	4.1E-02			8.3E-02	4.1E-02			na	4.1E-02			na	4.1E-02
Chlorpyrifos	0	5.6E+02	6.7E+01	5.6E+02	6.7E+01	5.6E+02	6.7E+01	na	6.7E+01			5.6E+02	6.7E+01			na	6.7E+01			na	6.7E+01
Chromium III	0	1.6E+01	1.1E+01	1.6E+01	1.1E+01	1.6E+01	1.1E+01	na	1.1E+01			1.6E+01	1.1E+01			na	1.1E+01			na	1.1E+01
Chromium VI	0			4.4E-02	4.9E-01			na	4.9E-01			4.4E-02	4.9E-01			na	4.9E-01			na	4.9E-01
Chrysene ^c	0	4.8E+00	3.6E+00	1.3E+03	2.2E+05	4.8E+00	3.6E+00	na	2.2E+05			1.3E+03	2.2E+05			na	2.2E+05			na	2.2E+05
Copper	0	2.2E+01	5.2E+00	7.0E+02	2.2E+05	2.2E+01	5.2E+00	na	2.2E+05			7.0E+02	2.2E+05			na	2.2E+05			na	2.2E+05
Cyanide	0			8.3E-03	8.4E-03			na	8.4E-03			8.3E-03	8.4E-03			na	8.4E-03			na	8.4E-03
DDD ^c	0			5.9E-03	5.9E-03			na	5.9E-03			5.9E-03	5.9E-03			na	5.9E-03			na	5.9E-03
DDE ^c	0	1.0E+00	1.0E-03	1.0E+00	1.0E-03	1.0E+00	1.0E-03	na	1.0E-03			1.0E+00	1.0E-03			na	1.0E-03			na	1.0E-03
DDT ^c	0			1.0E-01	1.0E-01			na	1.0E-01			1.0E-01	1.0E-01			na	1.0E-01			na	1.0E-01
Demeton	0							na								na				na	

FROM 2004 PERMIT REISSUANCE

Ammonia-N Waste Load Allocation

**FROM 2004 PERMIT
REISSUANCE**

Facility
Permit No.
Effluent pH
Effluent temperature
Effluent Flow
Stream flow

1Q10
30Q10

Rapp. Comm. College WWTP

VA0028461

8.5

21.5

0.018

0

0

100

100

Enter facility info here

MIN 1.82 2.85 1.82

MAX 1.82

Acute Mix
Chronic Mix

Ammonia Acute Criteria

Without Trout
With Trout

Criteria

3.20

2.14

WLAa

3.20

2.14

Ammonia Chronic Criteria

Without Fish
With fish

0.69

0.69

WLAc

0.69

0.69

Use this data to calculate NH3 limits

Note:

Acute without trout equation = $0.411/(1+10^{(7.204-pH)}) + 58.4/(1+10^{(pH-7.204)})$

Acute with trout equation = $0.275/(1+10^{(7.204-pH)}) + 39.0/(1+10^{(pH-7.204)})$

Chronic without fish = $[0.0577/(1+10^{(7.688-pH)}) + 2.487/(1+10^{(pH-7.688)})] \times MAX$

Chronic with fish = $[0.0577/(1+10^{(7.688-pH)}) + 2.487/(1+10^{(pH-7.688)})] \times MIN$

where MIN = the lesser of 2.85 or $1.45 \times 10^{(0.028 \times (25-T))}$

and MAX = $1.45 \times 10^{(0.028 \times (25-T))}$

Note:

90th% effluent pH used

Max. Effluent T used

Attachment F

Development of Ammonia and Total Residual Chlorine Effluent Limitations

Ammonia Effluent Limitations

Facility = Rappahannock Comm Coll (VA0028461)
Chemical = NH₃
Chronic averaging period = 30
WLAa = 3.2
WLAc =
Q.L. = .2
samples/mo. = 1
samples/wk. = 1

Summary of Statistics:
observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average = 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 3.2
Average Weekly limit = 3.2
Average Monthly Limit = 3.2

The data are:
9

Note: 9 mg/L was used to force a limitation per Guidance Memorandum 00-2011. Because the discharge is intermittent, chronic criteria were not evaluated when developing this limit. As indicated, the calculated ammonia limitation is 3.2 mg/L.

Total Residual Chlorine Effluent Limitation

Facility = Rapp. Comm College (VA0028461)
Chemical = TRC
Chronic averaging period = 4
WLAa = 0.019
WLAc =
Q.L. = .1
samples/mo. = 30
samples/wk. = 7

Summary of Statistics:
observations = 1
Expected Value = 20
Variance = 144
C.V. = 0.6
97th percentile daily values = 48.6683
97th percentile 4 day average = 33.2758
97th percentile 30 day average = 24.1210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 0.019
Average Weekly limit = 1.16034369282885E-02
Average Monthly Limit = 9.4168021134859E-03

The data are:
20

Note: 20 mg/L was used to force a limitation per Guidance Memorandum 00-2011. Because the discharge is intermittent, chronic criteria were not evaluated when developing this limit. As indicated, the TRC weekly average limit is 12 µg/L and the monthly average limit is 9.4 µg/L.

Attachment D

Effluent Data presented in the permit renewal application

Table 5

Parameter	Maximum Daily Value		Average Daily Value		
	Value	Units	Value	Units	Number of Samples
pH (minimum)	7.0	s.u.			
pH (maximum)	8.5	s.u.			
Flow Rate	0.02700	MGD	0.00960	MGD	143
Temperature (Winter)	19.6	°C	10.0	°C	31 in January
Temperature (Summer)	21.5	°C	18.9	°C	31 in August

Pollutant	Maximum Daily Discharge		Average Daily Discharge			ML/MDL
	Conc.	Units	Conc.	Units	No. Samples	
BOD ₅	2	mg/L	<2	mg/L	5	2
Fecal Coliform	<2	mpn/ 100mL	<2	mpn/ 100mL	5.0	2
TSS	16.6	mg/L	5.7	mg/L	5	1

Attachment E

Effluent Data for MSTRANT1 and Ammonia Calculations

Parameter	Date	Conc Min	Conc Max
<p>pH (S.U.)</p> <p>Data was compiled from DMRs submitted.</p>	10-May-99	6	
	10-Jun-99	8	8.5
	10-Jul-99	6	
	10-Sep-99	6	
	10-Dec-99	6	
	10-Jan-00	6	9
	10-Mar-00	7.5	8.5
	10-May-00	7.5	8.5
	10-Sep-00	7	8
	10-Oct-00	8	8.5
	10-Mar-01	7.5	8
	10-Jun-01	7.5	8
	10-Sep-01	8	8
	10-Jan-02	7.5	8.5
	10-May-02	8	8.5
	10-Dec-02	7.5	8
	10-Mar-03	7	7
	10-Apr-03	7	8
	10-May-03	7.5	8.5
	10-Aug-03	7.5	8
Average		7.2	8.2
90th%		8	8.5
10th%		6	8

Attachment F

Natural Heritage Resource Correspondence with DGIF

Kazio,Jeremy

From: Aschenbach, Ernie (DGIF)
Sent: Wednesday, August 20, 2008 9:49 AM
To: Daub,Eleanor; Kazio,Jeremy
Cc: Aschenbach, Ernie (DGIF)
Subject: FW: ESSLog# 25637; Rappahannock Community College - Glens Campus (STP)_
VPDES 0028461

We have reviewed the proposed re-issuance of the existing permit for the above-referenced facility. We understand that there will be no changes to the existing permit, and instream work is not proposed.

According to our records, the Dragon Swamp 2 Colonial Waterbird Colony for great blue heron is approximately 1.5 mile from the project area. Impacts to this colonial waterbird colony are not anticipated to result from the proposed permit re-issuance.

In order to protect the overall health of the aquatic resources, we recommend the existing treatment system be upgraded to use ultraviolet light or ozone disinfection to treat effluent from this facility, rather than continuing to use chlorine.

Thank you for providing this opportunity to comment.

Ernie Aschenbach
Environmental Services Biologist
Virginia Dept. of Game and Inland Fisheries
4010 West Broad Street
Richmond, VA 23230
Phone: (804) 367-2733
FAX: (804) 367-2427
Email: Ernie.Aschenbach@dgif.virginia.gov



VPDES PERMITS

Threatened and Endangered Species Coordination

To:

- ☒ DGIF, Environmental Review Coordinator
☒ DCR
☐ USFWS, T/E Review Coordinator

From: Jeremy S. Kazio, Water Permit Writer

Date Sent: 8/1/2008

Permit Number: VA0028461

Facility Name: Rappahannock Community College –
Glenns Campus STP

Contact: Mark Beaver (groundskeeper) / William C. Long
(plant operator)

Phone: (804) 758-6764 / (804) 769-7668

Address:

Location: 12745 College Drive
Glenns, VA 23149

USGS Quadrangle: 123C

Latitude/Longitude: 37° 34' 03" / 76° 38' 35"

Receiving Stream: UT Dragon Run Creek

**Receiving Stream Flow Statistics used for
Permit:**

Dry ditch discharge (Zero low flow characteristics)

Effluent Characteristics and Max Daily Flow:

****See attached electronic version of permit and fact sheet
(expires Feb. 2, 2009) Click the icons below****

**No changes for 2009 permit reissuance other than possibly
more restrictive Ammonia and/or TRC limitations and
updated language in special conditions**



U:\Permit - Water\
VPDES Permits\Indivik

← Permit

Fact Sheet →



U:\Permit - Water\
VPDES Permits\Indivik

**Species Search Results (or attach database
report and map):**

****Attached – Click icons below****

VaFWIS Search
Report →



I:\jskazio\Individual
Permits\VA0028461 R

Attach draft permit effluent limits page if available.

DGIF email: projectreview@dgif.virginia.gov
USF&W fax: (804) 693-9032

Kazio,Jeremy

From: Aschenbach, Ernie (DGIF)
Sent: Thursday, August 14, 2008 12:51 PM
To: Kazio,Jeremy; Dressler, Shirl (DGIF)
Subject: RE: Rappahannock Community College: Glenns Campus - VPDES No. VA0028461 - For your review

Perfect! Thank you.

Ernie Aschenbach
Environmental Services Biologist
Virginia Dept. of Game and Inland Fisheries
4010 West Broad Street
Richmond, VA 23230
Phone: (804) 367-2733
FAX: (804) 367-2427
Email: Ernie.Aschenbach@dgif.virginia.gov

From: Kazio, Jeremy (DEQ)
Sent: Thursday, August 14, 2008 11:57 AM
To: Aschenbach, Ernie; Dressler, Shirl
Subject: RE: Rappahannock Community College: Glenns Campus - VPDES No. VA0028461 - For your review

Please see the attached PDF file. I am sorry, this is the best I can do electronically to provide a topo map with a scale and north arrow. The project location (physical address), lat/long, and quad name are all included in the transmittal sheet that I sent you earlier. When you open the attached PDF file, you will be able to locate the Rappahannock Community College (South Campus) as a filled purple polygon in the center of the map. You can follow a dirt road (parallel purple dots) starting on the WESTERN side of the college building and leading north to a small marked impoundment (purple shape with purple polka-dots inside) located NORTH-NORTHWEST. At the very end of that road, and approximately 200' downstream from the northernmost end of the impoundment, is the discharge for Rappahannock Community College's Sewage Treatment Plant.

The college is located in the Saluda USGS Quadrangle, but the actual discharge from their treatment plant is located in the Shackelfords USGS Quadrangle.

Please **don't** confuse the directions above with the much larger impoundment located north-northeast of the college closer to Dragon Run Swamp.

Let me know if you have any other questions or need more information.

Jeremy S. Kazio
Environmental Specialist II
VA DEQ Piedmont Regional Office
4949-A Cox Road
Glen Allen, VA 23060
Phone: 804/527-5044
Fax: 804/527-5106

"We don't inherit the earth from our ancestors, we borrow it from our children."
- David Brower -

9/26/2008

-----Original Message-----

From: Aschenbach, Ernie (DGIF)

Sent: Thursday, August 14, 2008 9:50 AM

To: Kazio, Jeremy; Dressler, Shirl (DGIF)

Cc: Aschenbach, Ernie (DGIF)

Subject: RE: Rappahannock Community College: Glenns Campus - VPDES No. VA0028461 - For your review

Importance: High

In order to begin this review, additional information is required. Will you please provide a project location map (USGS topo quad.)? Map needs to include the following information:

- project location
- lat/long,
- north arrow,
- scale,
- quad name/landmarks for reference.

Please "reply all" to this email to ensure that our exec. secretary also receives this information. After receiving this information, we will begin our review.

Thank you.

Ernie Aschenbach
Environmental Services Biologist
Virginia Dept. of Game and Inland Fisheries
4010 West Broad Street
Richmond, VA 23230
Phone: (804) 367-2733
FAX: (804) 367-2427
Email: Ernie.Aschenbach@dgif.virginia.gov

From: Kazio, Jeremy (DEQ)

Sent: Friday, August 01, 2008 1:17 PM

To: ProjectReview

Subject: Rappahannock Community College: Glenns Campus - VPDES No. VA0028461 - For your review

Please let me know if I can do anything else.

Jeremy S. Kazio
Environmental Specialist II
VA DEQ Piedmont Regional Office
4949-A Cox Road
Glen Allen, VA 23060
Phone: 804/527-5044
Fax: 804/527-5106

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9/26/2008